

WHAT IS CLAIMED IS:

1. A chucking device for a disk player comprising:
 - a motor;
 - a drive gear driven by the motor;
 - a slider disposed slidably on the side of the drive gear;
 - a rack member arranged so as to have an engaging hole as well as to overlap the slider, and connected to the slider with an elastic member therebetween slidably relative to the slider, the rack member having a rack to be mated with the drive gear; and
 - a lever rotatably arranged so as to intersect the rack member and also having a pin engaging with an engaging hole of the slider and with an engaging hole of the rack member, wherein the engaging hole of the rack member comprises a first recess for forward moving the rack member relative to the slider during forward moving and a second recess for holding the slider at an initial position with the pin of the lever therebetween by intersecting the engaging hole of the slider when the slider is located at the initial position, and
 - wherein the slider is forward moved via the rack member by the drive gear for chucking operation while the slider is backward moved by the drive gear for canceling the chucking.

2. A device according to Claim 1, further comprising detecting means for detecting insertion of a disk,

wherein the rack member is operatively associated with detection by the detecting means so that the rack member is forward pushed and mated with the drive gear so as to move the rack member forward with the drive gear while the slider is forward moved via the pin of the slider engaging with the engaging hole of the rack member.

3. A device according to Claim 1, wherein at a forward movement position of the slider, the pin of the lever is located in an inlet of the first recess of the engaging hole of the rack member, and even when the rack member is further moved forward by the drive gear, the pin of the lever enters the first recess so as not to forward move the slider.

4. A device according to Claim 1, wherein when the slider is located at a forward movement position, if the drive gear is rotated in reverse, the rack member is backward moved so that the slider is backward moved via the pin of the lever engaging with the engaging hole of the rack member.

5. A device according to Claim 1, wherein while the

rack of the rack member is mated with the drive gear via the pin of the lever by the rack member, the slider is returned to an initial position.

6. A device according to Claim 1, wherein in a state that the slider is returned to an initial position, the slider is maintained in position by the pin of the lever engaging with the engaging hole of the slider, and

wherein if the rack member is out of engagement with the drive gear, the rack member is relatively moved on the slider by the elastic member so as to return to the initial position.

7. A device according to Claim 1, wherein the slider is provided with a rack which is mated with the drive gear only at a position where the slider and the rack member have the same phase.

8. A device according to Claim 2, wherein the detecting means for detecting insertion of a disk comprises a disk detection lever which rotates so as to push the rack member in the forward direction if the disk detection lever is pushed by the external periphery of the disk.

9. A device according to Claim 1, further comprising:

a chuck attached at the extremity of a chuck lever for holding the disk to a turn table;

an elastic member; and

a switching member,

wherein the chuck lever is urged in the chucking direction by the elastic member while the switching member pushes up the chuck lever against the elastic member in a chucking-canceling direction, and

wherein if the slider moves forward, the switching member is moved in a direction opposite to the chucking-canceling direction.

10. A disk player comprising a chucking device that comprises:

a motor;

a drive gear driven by the motor;

a slider disposed slidably on the side of the drive gear;

a rack member arranged so as to have an engaging hole as well as to overlap the slider, and connected to the slider with an elastic member therebetween slidably relative to the slider, the rack member having a rack to be mated with the drive gear; and

a lever rotatably arranged so as to intersect the rack member and also having a pin engaging with an engaging hole

of the slider and with an engaging hole of the rack member,

wherein the engaging hole of the rack member comprises a first recess for forward moving the rack member relative to the slider during forward moving and a second recess for holding the slider at an initial position with the pin of the lever therebetween by intersecting the engaging hole of the slider when the slider is located at the initial position, and

wherein the slider is forward moved via the rack member by the drive gear for chucking operation while the slider is backward moved by the drive gear for canceling the chucking.

11. A disk player according to Claim 10, wherein the chucking device further comprises detecting means for detecting insertion of a disk, and

wherein the rack member is forward pushed and mated with the drive gear so as to move the rack member forward with the drive gear while the slider is forward moved via the pin of the slider engaging with the engaging hole of the rack member in operative association with detection by the detecting means.

12. A disk player according to Claim 10, wherein at a forward movement position of the slider, the pin of the lever is located in an inlet of the first recess of the

engaging hole of the rack member, and even when the rack member is further moved forward by the drive gear, the pin of the lever enters the first recess so as not to forward move the slider.

13. A disk player according to Claim 10, wherein when the slider is located at a forward movement position, if the drive gear is rotated in reverse, the rack member is backward moved so that the slider is backward moved via the pin of the lever engaging with the engaging hole of the rack member.

14. A disk player according to Claim 10, wherein while the rack of the rack member is mated with the drive gear via the pin of the lever by the rack member, the slider is returned to an initial position.

15. A disk player according to Claim 10, wherein in a state that the slider is returned to an initial position, the slider is maintained in position by the pin of the lever engaging with the engaging hole of the slider, and

wherein if the rack member is out of engagement with the drive gear, the rack member is relatively moved on the slider by the elastic member so as to return to the initial position.

16. A disk player according to Claim 10, wherein the slider is provided with a rack which is mated with the drive gear only at a position where the slider and the rack member have the same phase.

17. A disk player according to Claim 11, wherein the detecting means for detecting insertion of a disk comprises a disk detection lever which rotates so as to push the rack member in the forward direction if the disk detection lever is pushed by the external periphery of the disk.

18. A disk player according to Claim 10, further comprising:

a chuck attached at the extremity of a chuck lever for holding the disk to a turn table;

an elastic member; and

a switching member,

wherein the chuck lever is urged in a chucking direction by the elastic member while the switching member pushes up the chuck lever against the elastic member in the chucking-canceling direction, and

wherein if the slider moves forward, the switching member is moved in a direction opposite to the chucking-canceling direction.